

FIRST RECORD OF THE GENUS *RIBAUTIELLA* BROLEMANN IN THE WESTERN HEMISPHERE AND A KEY TO THE SPECIES OF THE WORLD (SYMPHYLA: SCOLOPENDRELLIDAE)

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Abstract.—The genus *Ribautiella* (Symphyla: Scolopendrellidae), previously known from Africa and Madagascar, is reported for the first time from the Western Hemisphere. A new species *R. tuxeni* is described from Taperinha, Brazil. A key to the six known species is given.

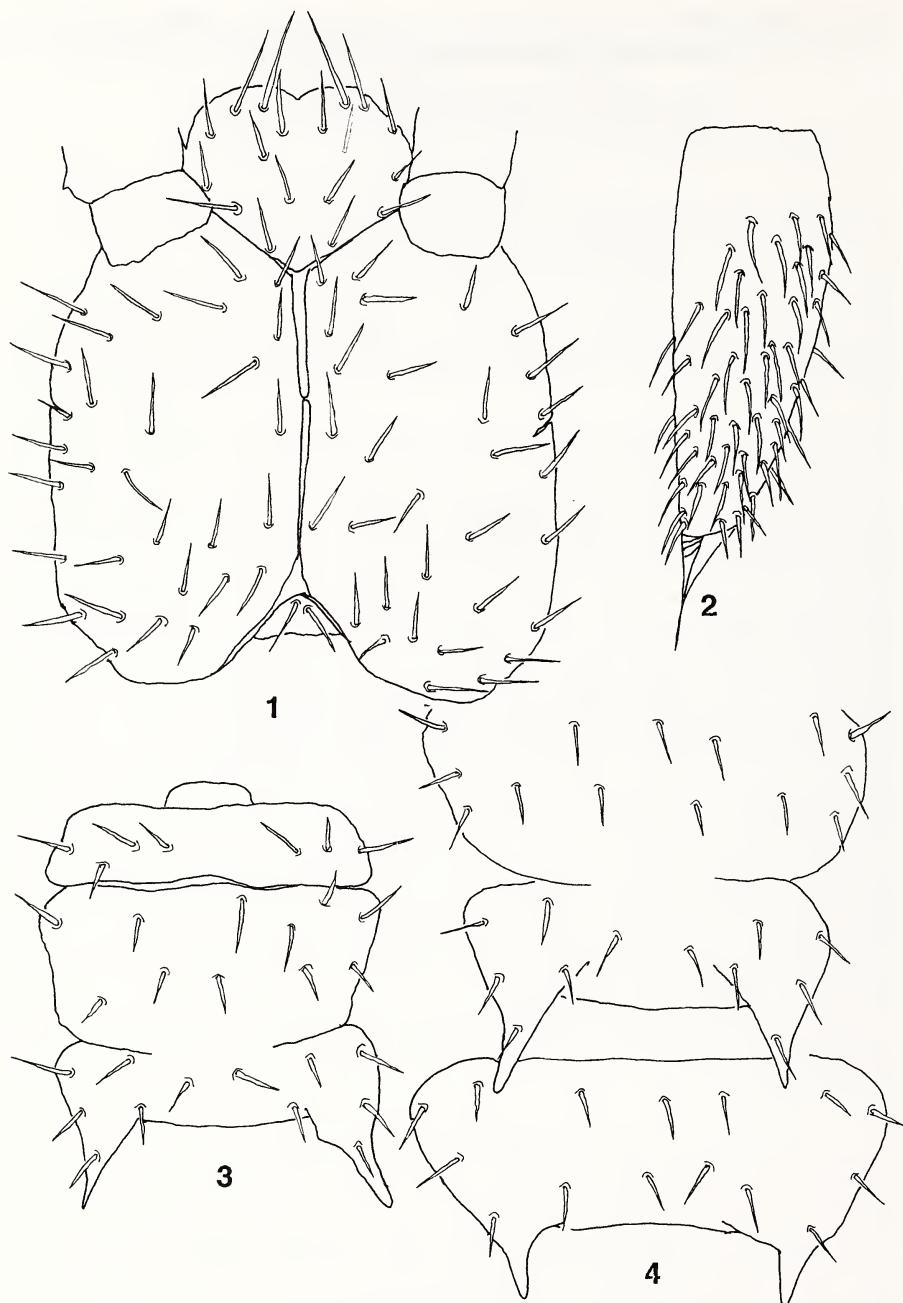
The genus *Ribautiella* was described by Brolemann (1926) for a symphytid species from the tropical regions of Africa, *R. zagnanadina*. The genus is characterized by having 23–24 dorsal sclerites, more than any other symphytid genus, and a vestigial first pair of legs. It was not until 1954 that additional species were described and placed in the genus: *R. borbonica* Jupeau (Madagascar); *R. machadoi* Henschberger and *R. schoutedeni* Henschberger (Angola). In 1956 Rochaix added a fifth species, *R. delphini*, based on specimens from Madagascar. Thus, the known geographical range of the genus has been confined to the tropical regions of Africa.

During an examination of several hundred specimens loaned to me by Dr. H. Enghoff of the Zoological Museum, Copenhagen, five specimens belonging to the genus *Ribautiella* from Brazil were found, extending the known range of the genus to the Western Hemisphere. Four of the specimens from Brazil were immatures having only 11 leg pairs but one specimen was a 12 leg pair adult. Previously Jupeau (1962) had recorded only three symphytid species from Brazil (*Sympylellopsis brasiliensis* Jupeau, *Hansenella unguiculata* (Hansen), *H. longisetis* Jupeau). The species *S. brasiliensis*, described by Jupeau (1962) superficially resembles the new species of *Ribautiella* described in this paper.

Using the descriptions and illustrations provided by previous authors, it is possible to construct a key that will aid other workers in identifying these interesting species of Symphyla.

KEY TO THE SPECIES OF RIBAUTIELLA

1. At least 1 seta on the triangular portion of scuta 2 and 3 towards the apex (Figs. 3, 4, 9) 2
- Seta absent on the triangular portion of scuta 2 and 3 towards the apex (Figs. 6, 15, 16) 5
2. Cerci densely setose (Fig. 2); setae on head relatively long (Fig. 1) *R. zagnanadina*
 Cerci sparsely setose (Figs. 32, 33); setae on head relatively short (Figs. 5, 10) 3
3. Scuta 2 distinctly divided into a basal and apical portion; basal portion relatively large (Figs. 6, 15 as examples); apical portion with 11 setae; cerci with apex not extended, with only 2 striations *R. machadol*



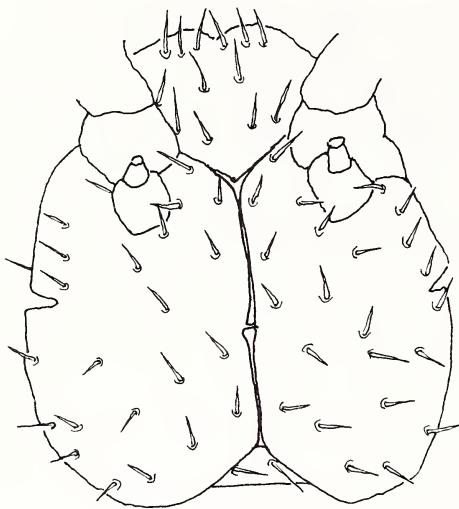
Figs. 1–4. *Ribautiella zabnanaidina* Brolemann. 1. Head, dorsal. 2. Cerci, dorsal. 3. Scuta 3–4 (Redrawn from Hinschberger 1954).

- Division of scuta 2 into basal and apical parts obscure (Fig. 9); basal portion relatively small; cerci with the apex distinctly extended, with at least 4 striations 4
- 4. Apex of cerci with numerous striations; antennae 16–17 segmented *R. borbonica*
- Apex of cerci with 4–5 striations; antennae, 14 segmented *R. delphini*
- 5. Distal antennal segments with numerous sensory organs along the apical margin of each segment (Fig. 7); scuta wide; apical portion of central rod of head distinct (Fig. 5) *R. schoutedeni*
- Distal antennal segments with few sensory organs along the apical margin (Fig. 13); scuta 1 narrow (Fig. 14); apical portion of central rod of head absent *R. tuxeni*, new species

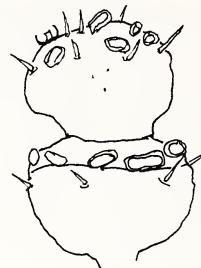
Ribautiella tuxeni, new species
(Figs. 10–35)

Diagnosis. This species closely resembles *R. schoutedeni* but can be readily distinguished by the absence of the anterior part of the central rod of the head and absence of sensory organs along the anterior margins of the antennal segments. The absence of a seta towards the apex on the triangle portion of scuta 2 and 3 separates *R. tuxeni* from other species in the genus.

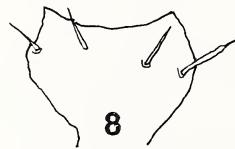
Description. Length, 2.636 mm. *Head* (Fig. 10). About as long as wide (0.207 long, 0.191 wide), widest at the spiracle openings; central rod distinct posteriorly, reaching almost to $\frac{1}{2}$ length of head, anteriorly weak, usually not evident; anterior-lateral arms absent; dorsal surface sparsely setose, covered with a vestiture of short hairs (visible only at $1000 \times +$). Ventral surface sparsely setose, more numerous anteriorly, some areas with a vestiture of short hairs. Mouth parts obscure, not readily visible in the holotype specimen. Postantennal organ small (0.0057×0.0059), round with a distinct opening. *Antennae* (Figs. 11, 12, 13). Holotype with 19 (left) or 20 (right) segments. Width of segments 1, 2, 3 respectively 0.042, 0.040, 0.0393; length of inside seta on segments 1, 2, 3 respectively 0.009, 0.008, 0.009. Each segment with a ring of setae along the anterior margin, number increasing towards apex; a second whorl of setae absent; antennal setae of two types, one with a distinct basal pore and the other without; a distinct, small circular organ, medially on each segment, set towards the inside margin; secondary "sense" organs (normally present in many Symphyla species) at the apex of the segments reduced to 1–2, or absent. *Scuta* (Figs. 14–30). There appear to be 24, sometimes poorly defined, setal bearing sclerites; scuta 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, are triangle-shaped posteriorly, scuta 1, 14, 16, 17 are rounded "plates," scuta 2, 3, 6, 9, 12, 15 may be considered divided into a basal rounded area and the posteriorly directed, double triangle-shaped areas; all scuta with a vestiture of short hair visible at magnifications of $1000 \times$ or more; sparsely setose. *Cerci* (Figs. 32, 33). A little longer than wide (0.090 length, 0.041 width); sparsely setose, setae long (0.017); apical seta short, about one-half as long as width of cerci at base (0.022); apex without striations; surface covered with a distinct vestiture of short hairs. *Genital opening* (Fig. 35). One longitudinal row of small, short setae along each side of the opening. *Legs* (Figs. 31, 34), sternal plate, coxal sac and styli (Fig. 35). Leg pair 1 (Fig. 34) vestigial with 1 distinct apical spine. Leg pair 12 (Fig. 31) sparsely setose, claws equal. Sternal plate with 3 small setae. Coxal sacs with 2 setae on the anterior and posterior areas. Stylets small, densely setose.



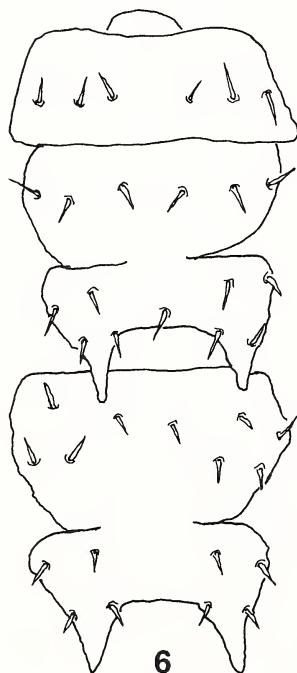
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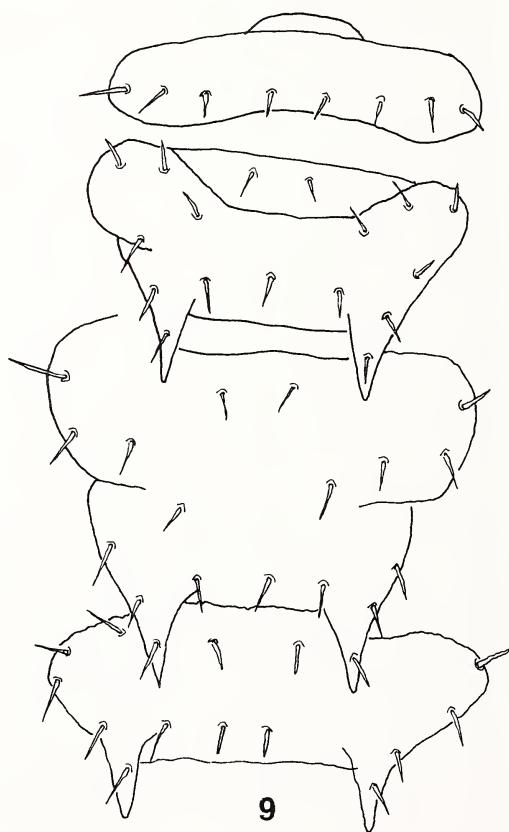
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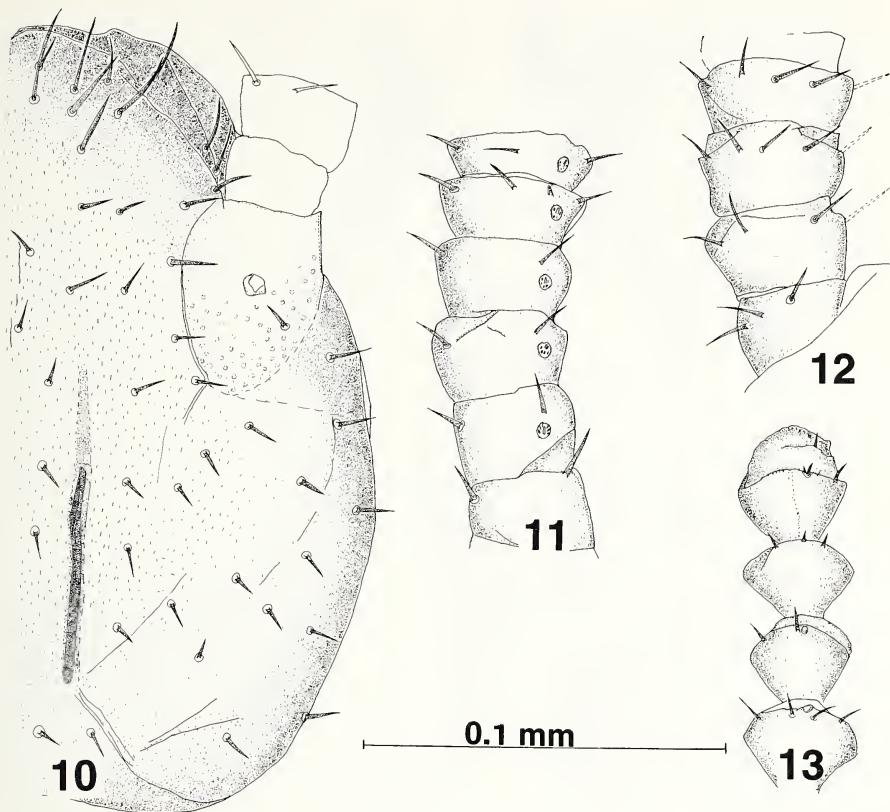
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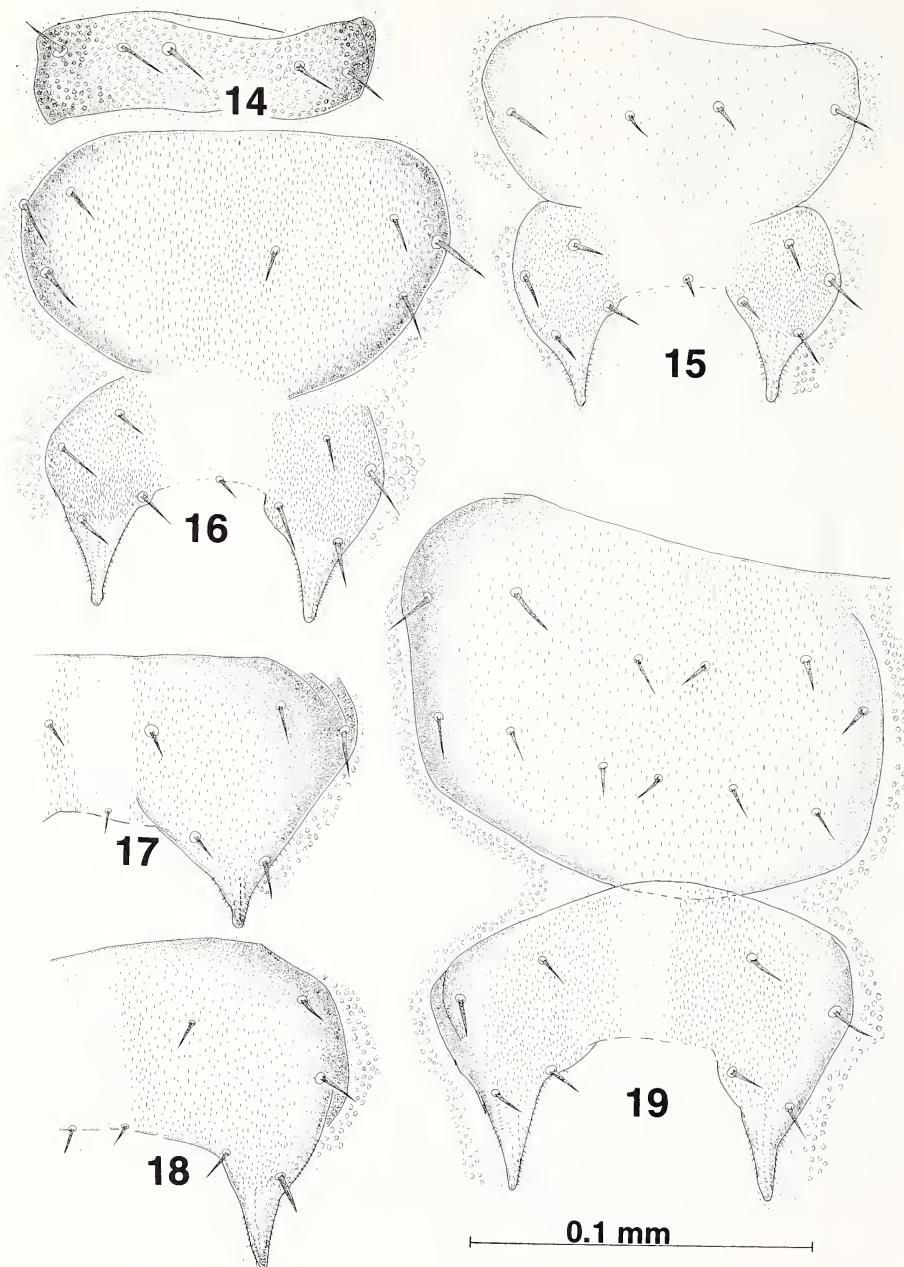
Figs. 10–13. *Ribautiella tuxeni*. 10. Head, dorsal. 11. Antennal segments 2–6, dorsal. 12. Antennal segments 1–4, ventral. 13. Antennal segments, apical 4 segments, dorsal.

Types. Holotype, Adult, 12 leg pairs, BRAZIL, Taperinha, Santarem, 18.xi.1970, S. L. Tuxen & (?) Jensen. Copenhagen Museum of Zoology, Denmark. Paratype: Immature, 4 specimens with 11 leg pairs, collecting data same as the Holotype. 3 paratypes Copenhagen Museum of Zoology, 1 paratype American Museum of Natural History, New York, NY, USA.

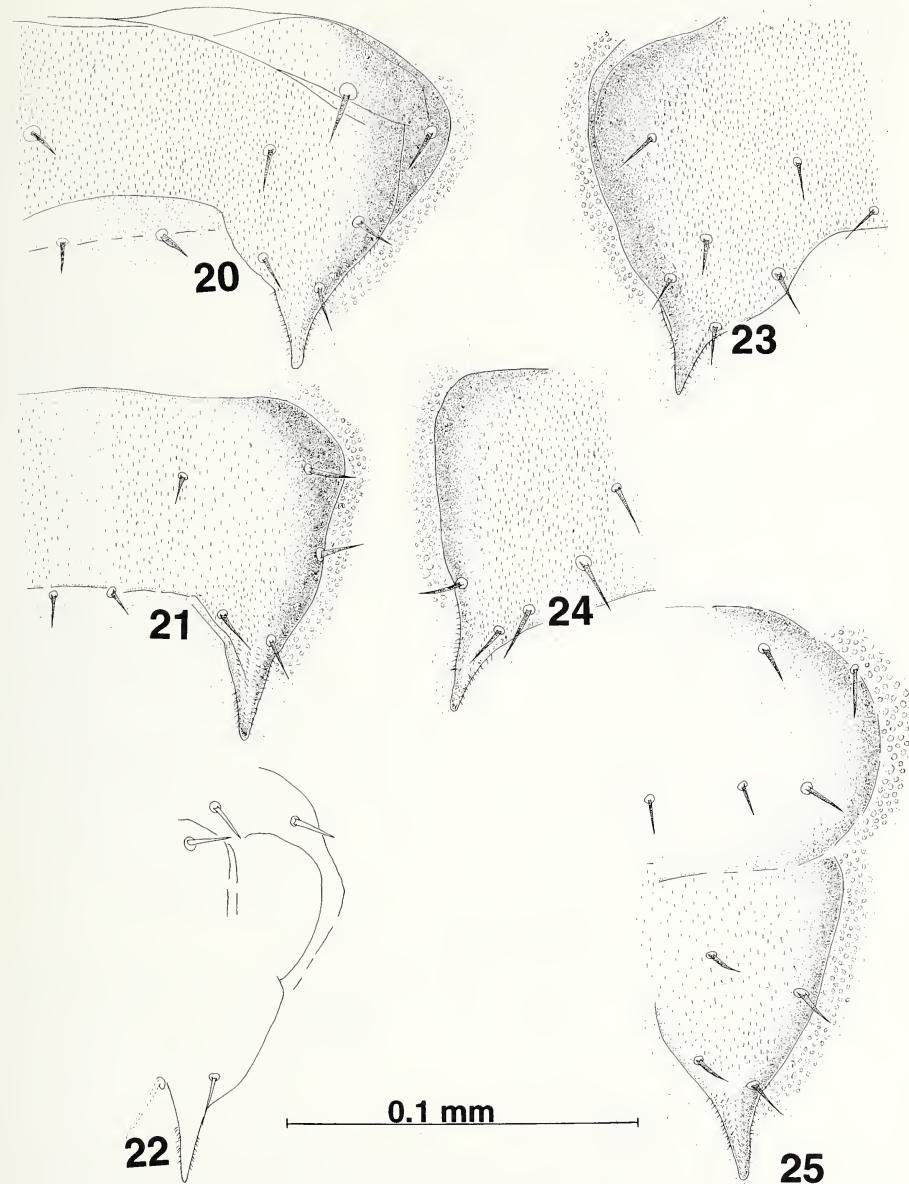
Etymology. This species is named in honor of S. L. Tuxen who made many valuable contributions to the study of apterygote insects and the Symphyla, and who was one of the collectors of the five specimens described here.

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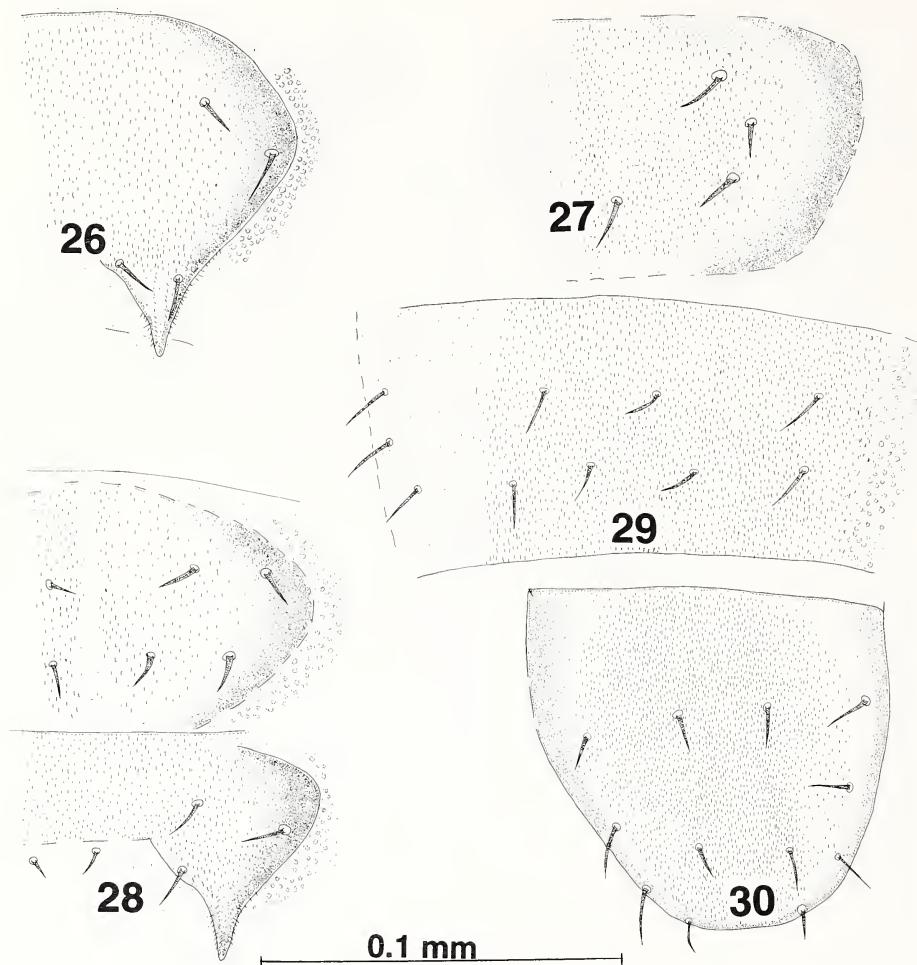
Figs. 5–9. *Ribautiella schoutedeni* Hinschberger. 5. Head, dorsal. 6. Scuta 1, 2, 3. 7. Antennal segments, apical. 8. Antennal segments, basal (Redrawn from Hisnchberger, 1954). 9. *R. borbonica*. 9. Scuta 1, 2, 3, 4 (Redrawn from Jupeau 1954).



Figs. 14–19. *Ribautiella tuxeni*. Dorsal scuta. Scuta 1, 2, 3, 4, 5, 6 for figs 14, 15, 16, 17, 18, 19 respectively.



Figs. 20–25. *Ribautiella tuxeni*. Dorsal scuta. Scuta 7, 8, 9, 10, 11, 12 for figs. 20, 21, 22, 23, 24, 25 respectively.



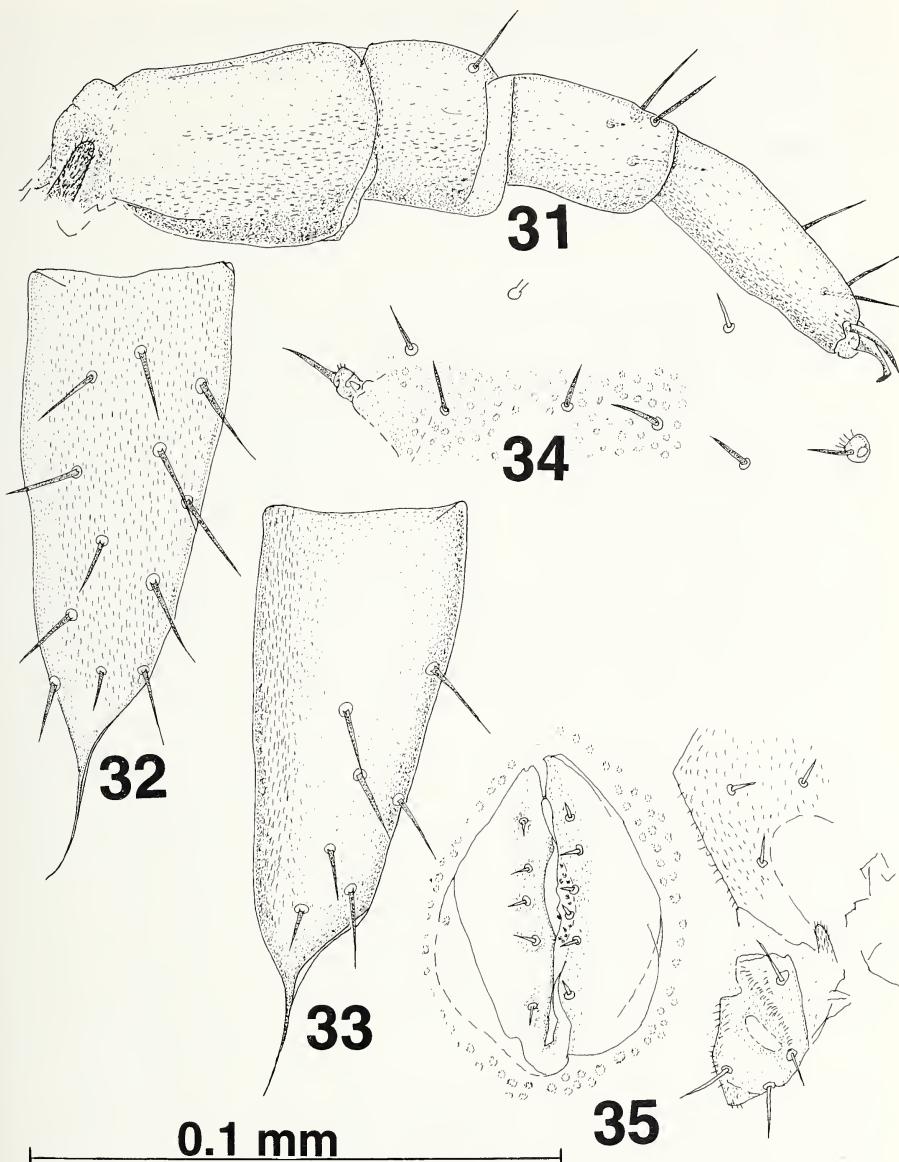
Figs. 26–30. *Ribautiella tuxeni*. Dorsal scuta. Scuta 13, 14, 15, 16, 17 for figs. 26, 27, 28
29, 30 respectively.

ACKNOWLEDGMENTS

I wish to thank Dr. H. Enghoff of the Zoological Museum, Copenhagen who has so kindly loaned a large number of specimens for study. Ms. Kim Love, my technical assistant, prepared the specimens and mounted them for study Douglas Tallamy, D. Schwaninger and Zhengliang Tao read the manuscript and offered helpful suggestions.

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Figs. 31–34. *Ribautiella tuxeni*. 31. Leg 12, anterior face. 32. Cerci, dorsal. 33. Cerci, ventral. 34. Body segment 1, ventral sternal area, vestigial leg pair 1. 35. Body segment 4, ventral sternal area, genital opening, accessory sac, styli, coxal plate area.

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